CLAIMS:

1. A safety arrangement incorporating a seat-belt (3) to protect an occupant (2) of a vehicle seat (1), the safety arrangement incorporating a unit (11) to create an output signal representative of the weight of the seat occupant, characterised in that said unit is configured to create the output signal in response to a first input signal (F) which is a function of a force applied to the seat-belt (3), and a second input signal (a_c) which is a function of the acceleration applied to the seat (1).

2. A safety arrangement according to Claim 1 wherein the seat-belt (3) is at least part of a restraining system to restrain the seat occupant (2) in an accident situation, the restraining system being controllable in response to the output signal to adjust the restraining force applied to the seat occupant (2).

3. A safety arrangement incorporating a restraining system to restrain the occupant (2) of a vehicle seat (1) in an accident situation, the restraining system having a seat-belt (3) to protect the occupant (2) of the seat (1), the safety arrangement incorporating a unit (11) to create an output signal, the restraining system being controllable in response to the said output signal to adjust the restraining force applied to the seat occupant (2), characterised in that said unit (11) is configured to create the occupant signal in response to a first input signal (F) which is a function of a force applied to the seat-belt (3), and a second input signal (a_c) which is a function of the acceleration applied to the seat.

4. A safety arrangement according to Claim 2 or Claim 3 wherein the seat-belt (3) is associated with an adjustable belt force limiter (5) which is adjustable to effect said adjustment of the restraining force applied to the seat occupant (2).

5. A safety arrangement according to any one of Claims 2 to 4 wherein the restraining system includes a controllable air-bag (8) controlled in response to said output signal to adjust the restraining force applied to the seat occupant (2).

6. A safety arrangement according to Claim 5 wherein the controllable air-bag (8) has a controllable gas generator (9) to adjust the inflation characteristic of the air-bag.

7. A safety arrangement according to Claim 5 or 6 wherein the air-bag (8) has controllable adjustable ventilation (10) to adjust the restraining force applied to the seat occupant (2).

8. A safety arrangement according to any one of Claims 2 to 7 wherein the restraining system includes a controllable device (40) controlled in response to said output signal for controllably resisting forward movement of a vehicle seat (1).

9. A safety arrangement according to any one of Claims 2 to 8 wherein the restraining system includes a controllable knee-pad (41) controlled in response to said output signal for controllably resisting forward movement of the knees of a seat occupant (2).

10. A safety arrangement according to any one of Claims 2 to 9 incorporating a control unit responsive to said output signal, the control unit (19) being configured to adjust the restraining force applied to the seat occupant (2) so that the restraining force increases with an increase of the force applied to the seat-belt (3) for a predetermined acceleration.

11. A safety arrangement according to Claim 10 wherein the control unit (19) is configured to adjust the restraining force by controlling the level of the restraining force to have one of a plurality of predetermined values.

12. A safety arrangement according to Claim 11 wherein the control unit (19) selects the time at which the level of the restraining force is changed from one predetermined value to another predetermined value.

13. A safety arrangement according to any one of Claims 2 to 12 wherein the arrangement incorporates a control unit (19) to adjust the restraining force in dependence upon a signal representing crash severity.

14. A safety arrangement according to Claim 13 wherein the safety arrangement incorporates an accelerometer (15) mounted in the front of the vehicle to provide said signal representing crash severity.

15. A safety arrangement according to Claim 13 wherein the safety arrangement incorporates a sensor (38) to sense, in advance, a potential accident and to provide said signal representing crash severity.

16. A safety arrangement according to Claim 15 wherein said sensor (38) comprises a Doppler radar.

17. A safety arrangement according to any one of the preceding Claims wherein the output signal is mainly proportional to the first input signal and inversely proportional to the second input signal.

18. A safety arrangement according to any one of the preceding Claims wherein the second input signal is processed by being passed through a low pass filter.

19. A safety arrangement according to any one of Claims 1 to 17 wherein the second input signal is processed by being integrated (37) over a period of time, the value of the integral being divided by a value proportional to the length of the period of time.

20. A safety arrangement according to any one of the preceding Claims wherein the said unit which creates the output signal additionally responds to a third input signal which is a function related to the speed of the seat-belt (3) withdrawn from a retractor to which the seat-belt is connected.

21. A safety arrangement according to Claim 20 wherein the signal related (L") to the seat-belt is indicative of belt acceleration.

22. A safety arrangement according to any one of the preceding Claims wherein the unit to create the output signal is configured to generate the output signal in dependence upon whether the first input signal indicates that the force applied to the seat-belt (3) has exceeded a predetermined threshold value, and in dependence upon whether the second input signal indicates that the acceleration has a predetermined value relative to at least one predetermined acceleration threshold value.

23. A safety arrangement according to Claim 22 wherein the output signal is generated in dependence upon whether the second input signal indicates that the acceleration is above a first relatively high threshold value, between the first relatively high threshold value and a second relatively low threshold value, or beneath the relatively low threshold value.

24. A safety arrangement according to any one of Claims 1 to 20 wherein the unit to create the output signal is configured to generate the output signal in dependence upon whether the second input signal has reached a first predetermined value, and in dependence upon whether the first input signal indicates that the force applied to the seat-belt is above or below a predetermined value.

25. A safety arrangement according to Claim 24 wherein the output signal is generated in dependence upon whether the first input signal exceeds a first relatively high threshold, is between a first relatively high threshold and a second relatively low threshold, or is beneath the relatively low threshold.

26. A safety arrangement according to any one of the preceding Claims incorporating a sensor to sense a force applied to a seat-belt and to generate the first input signal.

27. A safety arrangement according to Claim 26 wherein the sensor to sense a force applied to the seat-belt senses motion of a spool on which part of the belt is wound on.